

PATENT
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPEAL BRIEF FILED UNDER 37 CFR 1.192

June 24, 2005

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

RE: Patent Application No. 09/898,679
Filing Date: 07/03/2001
Inventor: Emanuel Kulhanek
Title: Well String Injection System and Method
Group Art Unit: 3672
Examiner: COLLINS, Giovanna M.
Attorney Docket No. KULE 101

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1. INTRODUCTION

This is an appeal to the Board of Appeals and Interferences from the final office action dated November 24, 2004. In the detailed action, the examiner rejected claim 1 under 35 U.S.C. 103(a) as being unpatentable over Palynchuk (US 3,559,905) (PALYNCHUK) in view of Design Engineers Handbook (DEH).

2. REAL PARTY IN INTEREST

C-TECH ENERGY SERVICES INC., a corporation incorporated in the Province of Alberta, Canada, is the real party in interest.

3. RELATED APPEALS AND INTERFERENCES

There will be a related appeal filed in co-pending divisional application, US Application Serial No. 10/423,826, filed April 24, 2003. The appeal in that application will be filed shortly.

4. STATUS OF CLAIMS

Claim 1 has been finally rejected, and it is this final rejection that is being appealed. Claims 2 to 9 have been cancelled.

5. STATUS OF AMENDMENTS

No amendments have been filed subsequent to the final rejection.

6. SUMMARY OF CLAIMED SUBJECT MATTER

All paragraph numbers are those of the application as filed.

As set out in claim 1, the invention is directed to a continuous feed injection unit, comprising:

a first hydraulic motor 20 (Page 4, Lines 11 and 12, and Fig. 2);

a second hydraulic motor 21 (Page 4, Lines 11 and 12, and Fig. 2);

cooperating continuous well string gripping chains 22 and 23 connected to be driven by the first and second hydraulic motors (Page 4, Lines 11 and 12, and Fig. 2);

a hydraulic power supply 16 connected to provide pressurized fluid to the first and second hydraulic motors (Page 4, Lines 15 and 16, and Fig. 2), and each of the first and second hydraulic motors being connected through respective first and second drain lines to a hydraulic fluid return to form an open loop hydraulic supply (Page 4, Lines 15 and 16, and Fig. 2);

a control system 13 for the hydraulic power supply 16 (Page 4, Lines 25 and 26, and Fig. 2);

the control system for the hydraulic power supply having a motor speed control valve 48 with at least a first and second operating configuration, the first operating configuration providing power fluid to the first and second hydraulic motors in parallel and the second operating configuration providing power fluid to the first and second hydraulic motors in series (Page 5, Lines 9 – 21, and Fig. 2);

the control system for the hydraulic power supply incorporating a motor direction control valve (36, 80 and 82) through which the power fluid flows (Page 5, Lines 20 – 24, and Fig. 2); and

the continuous chains comprising a first continuous chain 22 and a second continuous chain 23, the first continuous chain 22 being driven by the first hydraulic motor 20 and the second continuous chain 23 being driven by the second hydraulic motor 21 (Page 4, Lines 10-14, and Figs. 1A and 2).

7. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claim 1 stands rejected under 35 U.S.C. § 103(a), as being unpatentable over U.S. Pat. No. 3,559, 905 (“Palynchuk”) in view of Design Engineers Handbook (“DEH”).

8. BRIEF DESCRIPTION OF THE REFERENCES

PALYNCHUK is directed to an apparatus for running and pulling a continuous metal member into and out of a well. The pulling unit comprises "a track assembly 2 [which] includes two vertically disposed, opposed track members 9 suspended above the ground from a derrick 3A. Each track member 9 includes a pair of parallel sprocket chains 10 carrying between them a series of gripping pads 11, adapted to grip rod string 4. Drive sprocket assemblies 12, connected to hydraulic motors 13, are provided to drive sprocket chains 10. A pump assembly 14 is mounted on truck 15 and is adapted to provide fluid under pressure to drive hydraulic motor 13. An eccentric assembly 16 is provided to move track members 9 transversely and thereby adjust the gripping force of the gripping pads 11 (Col. 4, lines 45 to 56).

As is made clear in Col. 5, lines 50 - 55, the pulling unit is mounted to a truck, and is a complete unit in and of itself for pulling continuous well string out of or injecting continuous well string into a well. As described, the track members 9 are suspended from a derrick 3A. "The vertical legs 47 of derrick 3A are pinned to and supported by the bed of the truck 15. A horizontal box frame 49 is welded to legs 47 and bridges the gap between them at a point spaced above the truck bed. Track members 9 are suspended from box frame 49 by shafts 48. These shafts form part of eccentric assembly 16" (col. 5, lines 51 to 57).

As described at Col. 6, lines 8 to 19, "A pair of hydraulic motors 13 are mounted on supports 53 attached to box frames 17. Each motor 13 drives one track member 9 through a drive shaft 46. Radial, reciprocating-type piston hydraulic motors, having a high torque output at low

speeds, are suitable for the purposes of the apparatus. For example, motors rated up to 100 r.p.m. having a peak torque of 5,000 pounds have successfully been used in pulling 5,700 feet of 3/4 inch rod. A pump 14 is provided to supply fluid under pressure to motors 13. Conventional equipment will be used to control the speed, power output, and direction of rotation of the said motors."

DEH describes various ways of connecting motors and providing valve configurations for motor control. As described at f-8 and shown in circuit f-16, "In a system that requires two motors giving high speed, low torque and low-speed high torque, circuit f-16 may be used. When [D1] is in position [1] and [D-2] is in position [2] the two motors are connected in series and the high speed is available. When [D-1] is in position [1] and [D-2] is in position [3] low speed and high torque is available."

Mention is made of steering crawler-type vehicles on page 88, of driving and providing traction for vehicle wheels on page 84, and of overrunning, as in the case of a wheel-driven vehicle going downhill, the descent of an elevator or winch, payout from a cable reel, or during a machine operation such as contour milling on page 80. These are some examples of the types of applications for which the principles described in the DEH may be applicable.

9. ARGUMENT

I. Introduction

The applicant submits that the examiner's rejection of the claims based on the combination of PALYNCHUK with DEH is improper because the examiner did not correctly determine the scope and contents of the prior art, did not correctly ascertain the differences between the prior art

and the claims in issue, and failed to identify any motivation or suggestion in the teachings to combine them. Therefore, the applicant submits that the examiner's rejection of the claims is improper because the examiner has failed to make out a *prima facie* case of obviousness.

II. Summary of the Law

Generally, a rejection of the claims under 35 U.S.C. § 103(a) must meet four key elements as set out by the Supreme Court in *Graham v. John Deere*, 383 U.S. 1, 148 USPQ 459 (1966), and summarized in the *Manual of Patent Examining Procedure (MPEP) Edition 8 (E8), August, 2001, Latest Revision May 2004*, s. 2141. These elements are as follows:

- (A) Determining the scope and contents of the prior art;
- (B) Ascertaining the differences between the prior art and the claims in issue;
- (C) Resolving the level of ordinary skill in the pertinent art; and
- (D) Evaluating evidence of secondary considerations.

Applicant submits that the examiner has failed to determine correctly the scope and contents of the prior art and also to assess properly the differences between the references and the claimed invention, choosing to ignore the content of the teachings where they teach away from each other and from the applicant's invention.

Applicant also submits that the examiner failed to identify any motivation or suggestion in the teachings to combine them. As summarized in MPEP, s. 2143.01:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

The following points are also observed in MPEP, s. 2143.01:

- The level of skill in the art cannot be relied upon to provide the suggestion to combine references. *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 50 USPQ2d 1161 (Fed. Cir. 1999).
- The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).

The examiner has made arguments which ignore these points. As a result, the examiner has failed to establish a *prima facie* case of obviousness. Because of the examiner's failure, the rejection of the claim must be reversed.

III. The Rejection of Claim 1 Based on PALYNCHUK in View of DEH

The examiner has not determined the scope and content of the prior art correctly, and ignored clear differences between the prior art and the claim in issue. By combining an overbroad reference with a reference that clearly teaches away from the invention as claimed, the examiner has mistakenly rejected the claim in issue. The examiner has also failed to identify any motivation or suggestion to combine the references. As a result, the examiner has failed to establish a *prima facie* case of obviousness and improperly rejected the claim. The rejection should be reversed.

As noted, PALYNCHUK at Col. 6, lines 12 and 13, clearly identifies hydraulic motors having a high torque output at low speeds as suitable for the purposes of the pulling unit. The examiner has chosen to ignore this clear teaching away from connecting hydraulic motors in more than one operating configuration. PALYNCHUK has connected the motors in parallel, and

indicated this is suitable for the purpose. PALYNCHUK identifies the utility of the invention at Col. 8, lines 64 to 72, where it is noted:

The apparatus is characterized by three advantageous features. Firstly, it does not permanently deform the rod string which it services; as a result the string can be tripped time and again without problems. Secondly, it can be quickly rigged up and dismantled and is mounted on a suitable conveyance for portability. Thirdly, it can pull and run the rod string at a speed at least equal to conventional equipment. The second and third features add up to a servicing unit which is "fast", and therefore desirable for well servicing work.

At the time of PALYNCHUK's invention, an injection unit for running and pulling continuous well string was considered an advance over more conventional sucker rod strings and conventional methods of tripping the string into and out of the well. PALYNCHUK was satisfied with the advance made, and did not see the need for a further advance as contemplated by the applicant's invention. The applicant identified a problem with existing power supply arrangements and the advantage of having a control system as taught by the applicant, namely that it allows for the ability to pull the drill string slowly through viscous fluid, then rapidly to the surface once the drill string is free of viscous fluid. Neither the problem nor the advantage were in the contemplation of PALYNCHUK, and well beyond the scope of that invention.

The examiner has combined PALYNCHUK with a reference that is very broad. To use the examiner's reasoning, any invention that describes general principles involved in connecting hydraulic motors would be obvious based on DEH. As noted, the portions of the reference cited refer to many different applications for the principles described in the reference. The examiner ignores the inventive step required to apply known principles to the solutions of problems that have not been previously identified. The DEH is a manual to teach the person having ordinary

skill in the art the principles of connecting motors and configuring valves to achieve the results he knows he wants or to solve problems he may encounter, as for example, on page 84 where the reference teaches, "For off-the-road vehicles this traction problem can be solved by installing a 2-way normally open valve in the fluid line to each motor." Nowhere does DEH teach the person having ordinary skill in the art how to identify problems the person was not aware existed.

This also points to the examiner's failure to identify a single instance that would suggest combining the references. It is not enough to say it would have been obvious to one of ordinary skill in the art "to modify the unit disclosed by Palynchuk to have the control system disclosed by Design Engineers Handbook" (page 3) without offering even a single suggestion in either reference to do so. Neither reference suggests the desirability of being combined with the other.

PALYNCHUK identifies no reason to have more than one configuration for the hydraulic motors as used in the described invention, indicating rather that having a high torque low speed output is suitable for the purposes of the apparatus (col. 6, lines 11 to 16). DEH does not suggest using a dual configuration for pulling a drill string slowly through viscous fluid then rapidly once the drill string is free of viscous fluid. Only the inventor has suggested the desirability of doing this and claimed an invention capable of doing it.

Rather than recognizing the inventive step taken by the applicant to overcome a problem identified by the applicant, the examiner has used impermissible hindsight analysis and used the applicant's own invention against him. The examiner has not determined correctly the scope and content of the prior art, has failed to ascertain correctly the difference between the prior art and the

claim in issue, and has not identified any motivation or suggestion to combine the references.

Therefore, the examiner has improperly rejected the claim on appeal.

10. CONCLUSION

For these reasons, it is submitted that the examiner has failed to establish a *prima facie* case of obviousness, and hence has erred with respect to the rejection of the claim on appeal.

It is therefore submitted that the claim on appeal is in condition for allowance, and that the rejection should be reversed.

Respectfully submitted.

HOLLAND & MIDGLEY, LLP

DATED: June 24, 2005

By: 

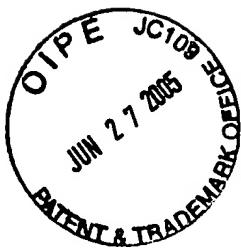
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DATE OF DEPOSIT: June 24, 2005


Printed Name: Kelly Y. Johnson



CLAIMS APPENDIX

1. A continuous feed injection unit, comprising:
 - a first hydraulic motor;
 - a second hydraulic motor;
 - cooperating continuous well string gripping chains connected to be driven by the first and second hydraulic motors;
 - a hydraulic power supply connected to provide pressurized fluid to the first and second hydraulic motors, and each of the first and second hydraulic motors being connected through respective first and second drain lines to a hydraulic fluid return to form an open loop hydraulic supply;
 - a control system for the hydraulic power supply;
 - the control system for the hydraulic power supply having a motor speed control valve with at least a first and second operating configuration, the first operating configuration providing power fluid to the first and second hydraulic motors in parallel and the second operating configuration providing power fluid to the first and second hydraulic motors in series;
 - the control system for the hydraulic power supply incorporating a motor direction control valve through which the power fluid flows, the motor direction control valve being configured to reverse flow of power fluid through the first and second hydraulic motors; and
 - the continuous chains comprising a first continuous chain and a second continuous chain, the first continuous chain being driven by the first hydraulic motor and the second continuous chain being driven by the second hydraulic motor.



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EVIDENCE APPENDIX

No additional evidence is being entered or relied upon in this appeal.



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RELATED PROCEEDINGS APPENDIX

No decisions have been rendered by the Board in the proceedings identified in the related appeals on interferences section of this brief.